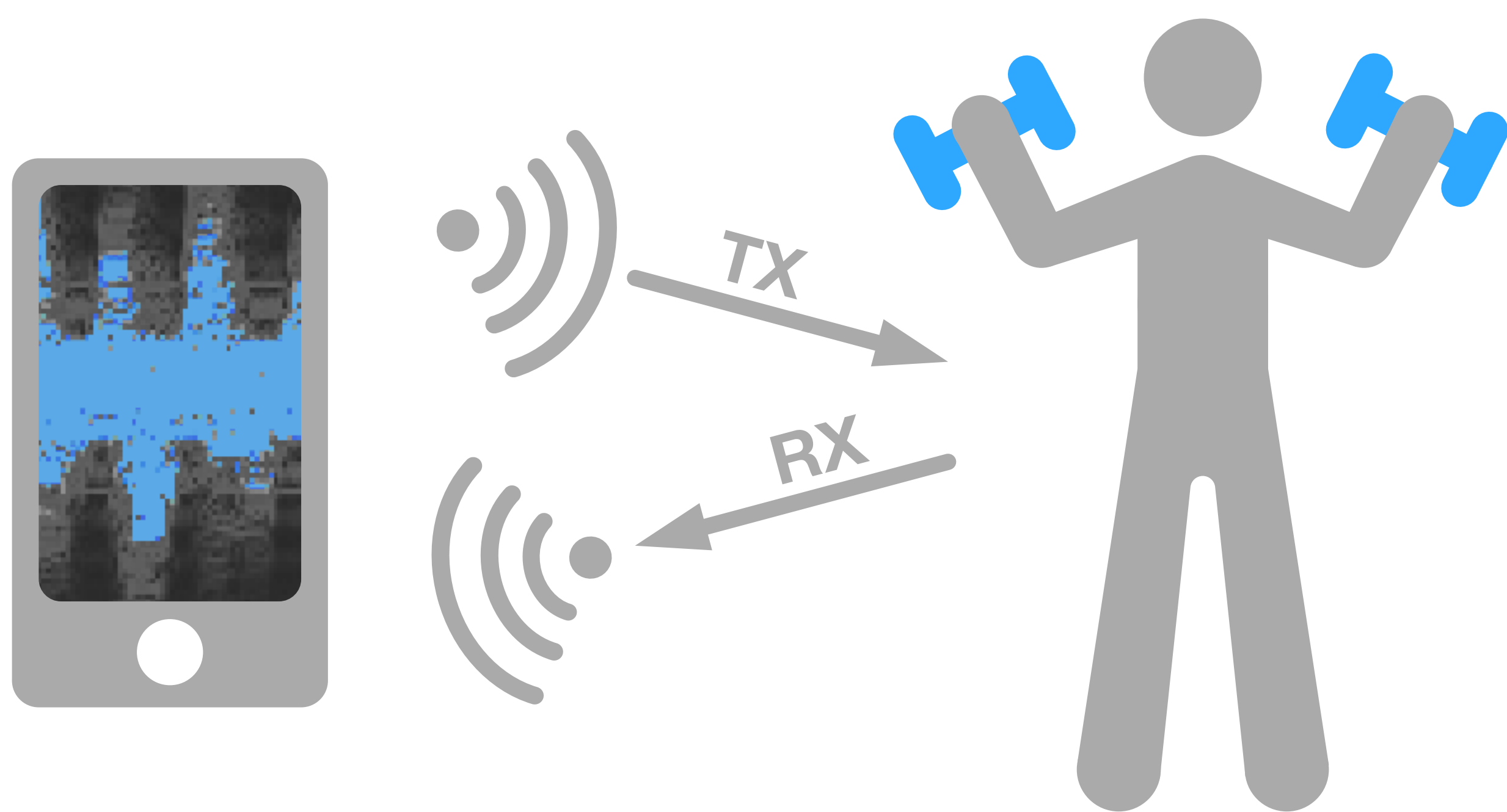


Doppler Exercise Sensing

Smartphone Doppler Ultrasound for Improved Activity Quantification

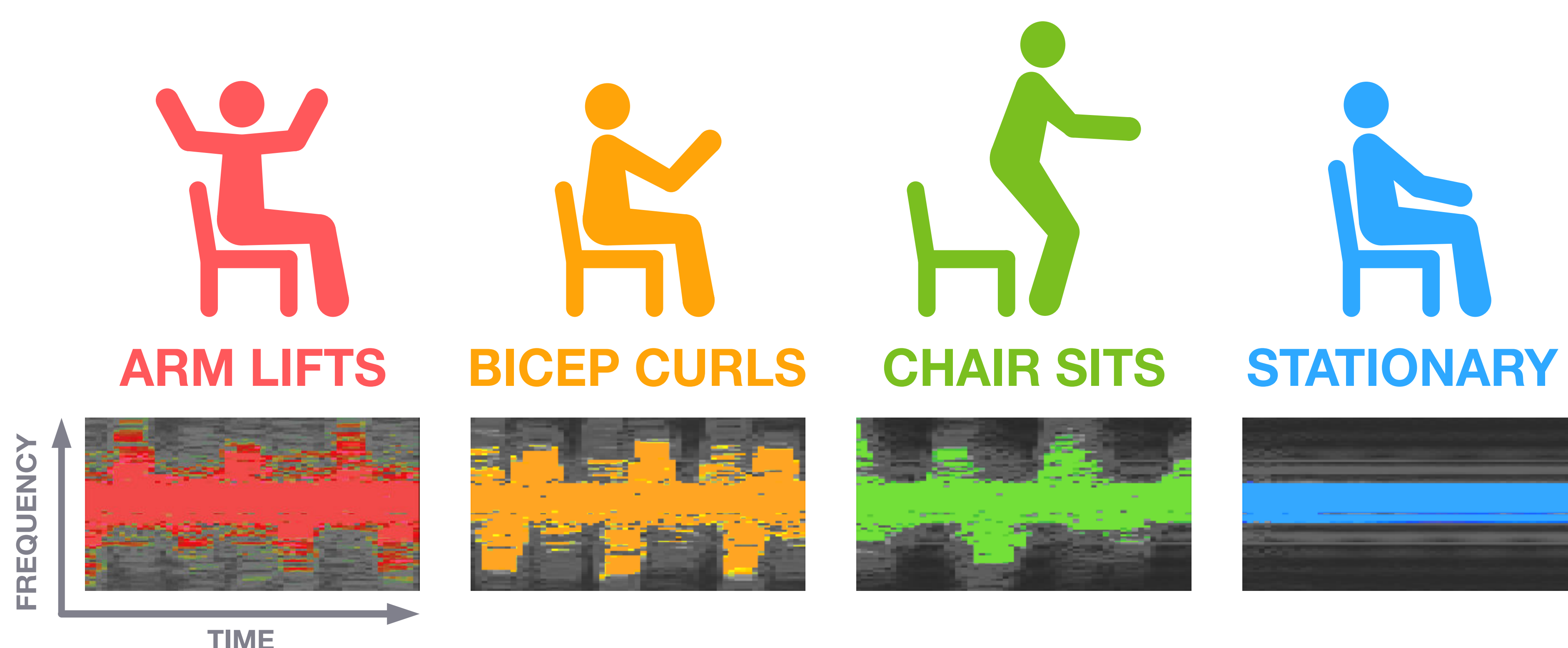
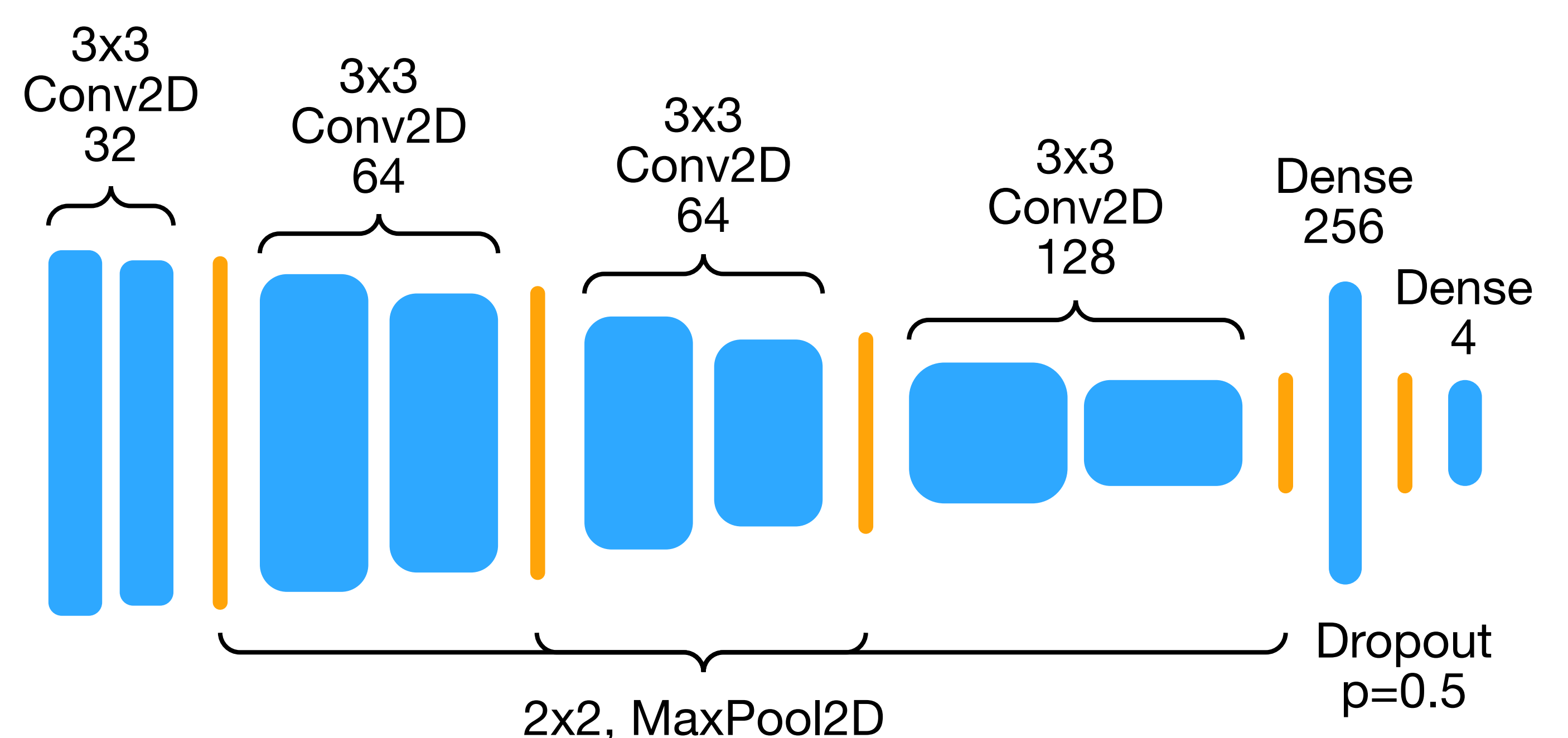


Physical inactivity is an EPIDEMIC

- ▶ Physical inactivity is the **4th** leading risk factor for death.
- ▶ **80%** of US adults do not meet national guidelines.
- ▶ Physical activity should be measured as a **vital sign**.
- ▶ Step count is an unhelpful measure for **sedentary individuals**.

Pilot Study

3 test subjects	15 -layer CNN
4 seated exercises	10 -fold cross validation
571 total samples	95% accuracy overall



	A	B	C	S	
A	129	6	2	3	GROUND TRUTH
B	2	151	0	0	
C	5	1	107	8	
S	0	0	1	156	
	PREDICTION				

Parker Ruth, Abhinav Bandari, Anshita Saini, Libby Lavitt, Cindy Lin, Sara Mosiman, Samuel Browd, and Shwetak Patel